U.S. Department of the Interior
Bureau of Land Management
Little Snake Field Office
455 Emerson Street
Craig, CO 81625-1129

ENVIRONMENTAL ASSESSMENT

EA-NUMBER: CO-100-2006-043 EA

CASEFILE/PROJECT NUMBER/LEASE NUMBER: COC09713

PROJECT NAME: Shell Creek Unit Well #11-35-4

LEGAL DESCRIPTION: NWNW Sec. 35, T12N, R99W, 6th PM, Moffat County, Colorado

APPLICANT: Samson Resources Company

PLAN CONFORMANCE REVIEW: The proposed action is subject to the following plan:

> Name of Plans: Little Snake Resource Management Plan and Record of Decision (ROD) approved on April 26, 1989; and the Colorado Oil and Gas Leasing & Development Environmental Impact Statement (EIS) and the ROD signed on November 5, 1991.
>
> Remarks: The proposed Shell Creek Well #11-35-4 would be located within Management Unit 2 (Little Snake Resource Management Plan). One of the objectives of Management Unit 2 is to provide for the development of the oil and gas resource. The development of other resource uses/values within this unit is allowed consistent with the management objectives for oil, gas, and forest resources.

The proposed action was reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

NEED FOR PROPOSED ACTION: To provide for the development of oil and gas resources and to supply energy resources to the American public.

PUBLIC SCOPING PROCESS: The Application for Permit to Drill (APD) has been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning August 29, 2005 when the APD was received, and may be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: The proposed action is to approve one Application for Permit to Drill (APD) submitted by Samson Resources Company. Samson proposes to drill one gas well on BLM administered land located in the NWNW Sec. 35, T12N, R99W. An APD has been filed with the LSFO for the Shell Creek Wells #11-35-4. The APD includes drilling and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Samson in the drilling and surface use plans would be attached by the BLM as Conditions of Approval to the approved APD.

The proposed well is located approximately 45 miles northwest of Maybell, Colorado. Construction work is planned to start in the summer of 2006 and the estimated duration of construction and drilling is 10 months. Moffat County Roads 4 and 4W would be used to access the wells. Upgrading approximately 409 feet of existing gas field road for the well would be required. Total surface disturbance for upgrading the existing two-track would be approximately one-third acres (0.33). No new road construction would be required

The proposed well pad would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 3.0 acres would be disturbed for construction of the well pad. This would include the 400' by 275' well pad, the topsoil, and subsoil piles. A reserve pit would be constructed on the well pad to hold drill mud and cuttings. If the gas well is a producer, cut portions of the well site would be backfilled and unused portions of the well site would be stabilized and re-vegetated. If the gas well proves unproductive, it would be properly plugged and the entire well pad and access road would be reclaimed.

Samson Resources did include plans for gas sale pipeline with the APD. A new gas sales pipeline would be installed from the Shell Creek #11-35-4 well to a tie-in point to the existing pipeline right-of-way, COC68895. The gas transportation pipeline would be buried adjacent to the access road. This pipeline would be on BLM land and within lease boundaries, so a right-of-way is not required. The proposed pipeline would be buried to a depth of 36 to 48 inches. A minimum of 6 inches of topsoil would be saved along the edge of the pipeline corridor. During rehabilitation, the topsoil would be evenly spread over the disturbed area. All cleared materials, would be scattered over the disturbed portion of the corridor after seeding is completed.

NO ACTION ALTERNATIVE: The "no action" alternative is that the well would not be permitted and therefore no well would be drilled. Samson Resources Company holds a valid and current oil and gas lease for the area where the proposed Shell Creek Well #11-35-4 would be located. Under leasing contracts, the BLM has an obligation to allow mineral development if the environmental consequences are not irreversible or too severe. The APD process is designed to overcome the no action situation of not accepting the APD, through the mitigation of predicted environmental consequences. Since the proposed action is consistent with the ROD and the Oil and Gas Leasing EIS, rejecting the APDs for the wells was considered but will not be analyzed further in this EA.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action.

Environmental Consequences: Short term, local impacts to air quality from dust would result during and after well pad construction. Drilling operations produce air emissions such as exhaust from diesel engines that power drilling equipment. Air pollutants could include nitrogen oxides, particulates, ozone, volatile organic compounds, fugitive natural gas, and carbon monoxide. Gas flaring reduces the health and safety risks in the vicinity of the well by burning combustible and poisonous gases like methane and hydrogen sulfide. The proposed action will not adversely affect the regional air quality.

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 05/02/06

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable

Name of specialist and date: Jim McBrayer 05/02/06

CULTURAL RESOURCES

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, An Isolated Empire, A History of Northwestern Colorado, Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and Colorado Prehistory: A Context for the Northern Colorado River Basin, Colorado Council of Professional Archaeologists.

Environmental Consequences: The proposed project, Samson Resources Company Shell Creek 11-35-4 well pad, access and pipeline, has undergone a Class III cultural resource survey:

Letter
2006 Documentation for a Class III Exclusion for the proposed Samson Resources Shell Creek 11-35-4 well pad, access road, and pipeline reroute. 06-WAS-280; BLM 12.37.06 Western Archaeological Services, Rock Springs, Wyoming.

Kautzman, Matthew D.
2006 Samson Resources Company Shell Creek 11-34-4 Well Location, Access Road, and Pipeline Class III Cultural Resource Inventory. 05-WAS-803; BLM 12.2.06. Western Archaeological Services, Rock Springs, Wyoming.

The survey identified one eligible to the National Register of Historic Places prehistoric cultural resources. The proposed project may proceed as described in this EA with the following mitigative measures in place.

Mitigative Measures: Project specific mitigation 5MF6168 will be avoided during the construction, production and reclamation of the pad location. A fence will be placed on the north and east side of the cultural resource for protection from the road and pad activities. Fence placement will be done with an Archaeological Monitor present during construction. This fence will be in good repair for all phases of the proposed activity at Shell Creek 11-34-4.

The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Henry S. Keesling 05/02/06

ENVIRONMENTAL JUSTICE

Affected Environment: The project would not directly affect the social, cultural, or economic well being and health of Native American, minority or low-income populations. The project area is relatively isolated from population centers, so no populations would be affected by physical or socioeconomic impacts from the project.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Louise McMinn 05/08/06

FLOOD PLAINS

Affected Environment: Active floodplains and flood prone zones are avoided.

Environmental Consequences: No threat to human safety, life, welfare, or property will result from the proposed action.

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 05/02/06

INVASIVE, NONNATIVE SPECIES

Affected Environment: Halogeton (Halogeton glomeratus) and cheatgrass (Bromus tectorum) are known to occur along roadsides, well pads, pipelines and other disturbed areas. Given an opportunity, both these species are capable of out competing native vegetation communities, and becoming the dominant cover type without management. Several biennial thistles are known to occur in this area given wet enough conditions. The potential for other noxious weeds to occur exists given favorable climatic and growing conditions.

Environmental Consequences: The surface disturbing activities and associated traffic involved with drilling a new well and upgrading the necessary access roads will create a favorable environment, and provide a mode of transport for invasive species and other noxious weeds to become established. Invasive species can be spread through a variety of means including vehicular travel, wildlife and livestock movement, wind, and water. Required mitigation attached as Conditions of Approval to minimize disturbance, and the utilization of interim reclamation techniques would facilitate control of invasive species and reduce the potential of long-term infestation of annual and noxious weed species. All principles of Integrated Pest Management should be employed to control noxious weeds on public lands.

Mitigative Measures: None

Name of specialist and date: Curtis Bryan 05/05/06

MIGRATORY BIRDS

Affected Environment: The Shell Creek area provides nesting habitat for a variety of migratory birds. The proposed action is located in sagebrush and grass community. Two sagebrush obligate species listed on USFWS's Bird of Conservation Concern List, the sage sparrow and the Brewers sparrow likely nest in the area. Additional birds that may nest in the area include the vesper sparrow and sage thrasher. There are several ferruginous hawk nests located within a one mile radius of the proposed project area.

Environmental Consequences: Nesting of migratory birds may be disrupted and nests could be lost if construction activities are conducted during the nesting period (May – July). Approximately 3 acres of nesting habitat would be altered with the proposed action. Clearing vegetation would remove nesting substrate and increase fragmentation within the sagebrush ecosystem. However, the loss of 3 acres of nesting habitat should not significantly impact migratory birds as little oil and gas development is occurring within a one mile radius of the proposed well site. The proposed action would have no measurable influence on the abundance or distribution of breeding migratory birds at any landscape level.

Impacts to raptor species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, nest abandonment, decreased nest attendance and elimination of essential habitat components. These impacts can be more severe during crucial times, such as breeding, nesting and raising of the young. Disturbance from oil and gas activities during these critical periods may displace raptors to less suitable nesting habitat, or result in the mortality of young from nest abandonment or decreased nest attendance. White and Thurow (1985) found that 33% of ferruginous hawks respond to disturbances by abandoning nest sites. The study also found that disturbed nests "fledged significantly fewer young ($P < 0.05$) than undisturbed nests." Since the proposed wells could take up to 10 months to drill, it is likely that drilling would be conducted during raptor critical periods. Noise and increased human presence from construction and drilling

activities may displace ferruginous hawks from using nests near the proposed well sites. Drilling commencing after egg laying or hatching could lead to nest abandonment or mortality of young. Mitigation measures will be used to offset potential impacts to ferruginous hawks from this project.

References:

Bureau of Land Management. 1991. Colorado Oil and Gas Leasing and Development. Final Environmental Impact Statement. U.S. Dept. of Interior.

White, C. and Thurow, T. 1985. Reproduction of Ferruginous Hawks Exposed to Controlled Disturbance. The Condor 87:14-22.

Mitigative Measures: Samson will continue with the mitigation plan designed for the Shell Creek #3 well site. This mitigation plan was designed to monitor and minimize impacts to ferruginous hawks from extended drilling periods. This plan will be used to continue mitigation measures in the Shell Creek area.

Name of specialist and date: Timothy Novotny 05/08/06

NATIVE AMERICAN RELIGIOUS CONCERNS

A letter was sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council, and the Colorado Commission of Indian Affairs on January 21, 1999. The letter listed the projects that the BLM would notify them on and projects that would not require notification. No comments were received (Letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Henry S. Keesling 05/02/06

PRIME & UNIQUE FARMLANDS

Affected Environment: Not Present

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 05/02/06

T&E SPECIES – ANIMALS

Affected Environment: There are no threatened or endangered wildlife species or habitat for such species in or near the project area. The project area provides habitat for the greater sage grouse, a BLM sensitive species. The area is mapped as winter habitat by the

Colorado Division of Wildlife. The closest lek is over 3.5 miles from the project site. The area does not provide nesting or brooding rearing habitat for sage grouse.

Environmental Consequences: Impacts to grouse species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat and loss of habitat. Other impacts, such as habitat fragmentation and the spread of exotic plants can also degrade sage grouse habitat (Connelly et al. 2004). Approximately 3 acres of sage grouse habitat would be altered with the proposed action. Clearing vegetation would increase fragmentation within the sagebrush ecosystem and may degrade sage grouse habitat.

During the winter months, sage grouse are almost entirely dependent on sagebrush for food and cover. Sage grouse rely on areas where sagebrush protrudes above snow cover or on wind swept ridges and plateaus devoid of snow. Noise and increased human presence related to construction and drilling activity can disturb grouse using winter habitat. These impacts can be negligible to major, depending on such variables as the timing and duration of the activity and the severity of the winter. During mild winters, more winter habitat would be available to sage grouse and drilling during the winter months would not have major impacts to grouse. However, during severe winters, habitat is limited and displacement of grouse from important winter habitat could have consequences to over winter survival. The sagebrush stands in the vicinity of proposed well sites and roads exhibit characteristics that provide important habitat for sage grouse during winter months. Since the proposed wells could take up to 10 months to drill, it is likely that drilling would be conducted during the sage grouse wintering period (Dec – March). Noise and increased human presence from construction and drilling activities may displace sage grouse from winter habitat near the proposed well sites. Mitigation measures will be used to off set potential impacts to sage grouse from this project.

References:

Bureau of Land Management. 1991. Colorado Oil and Gas Leasing and Development. Final Environmental Impact Statement. U.S. Dept. of Interior.

Connelly, J.W., S.T. Knick, M.A. Schroeder and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

Mitigative Measures: Samson will continue with the mitigation plan designed for the Shell Creek #3 well site. This mitigation plan was designed to monitor and minimize impacts to wintering sage grouse from extended drilling periods. This plan will be used to continue mitigation measures in the Shell Creek area.

Name of specialist and date: Timothy Novotny 05/08/06

T&E SPECIES – PLANTS

Affected Environment: There are no federally listed threatened or endangered plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 05/02/06

T&E SPECIES - SENSITIVE PLANTS

Affected Environment: There are no BLM sensitive plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 05/02/06

WASTES, HAZARDOUS OR SOLID

Affected Environment: If a release does occur, the environment affected would be dependent on the nature and volume of material released. If there are no releases, there will be no impact on the environment.

Environmental Consequences: Consequences will be dependent on the volume and nature of the material released. In most every situation involving hazardous materials, there are ways to remediate the area that has been contaminated. Short-term consequences will occur, but they can be remedied, and long-term impacts will be minimal.

Mitigative Measures: None

Name of specialist and date: Duane Johnson 05/02/06

WATER QUALITY/HYDROLOGY – GROUND

Affected Environment: The surface formation is the Wasatch Formation. This formation could hold fresh water in its minor sandstone horizons but potable water is unlikely. Typically the deeper the formation is the less useable and less fresh the water.

Environmental Consequences: With the use of proper construction practices, drilling practices, and with best management practices no significant adverse impact to groundwater

aquifers and quality is anticipated to result from the proposed action. A geologic and engineering review was performed on the 8-point drilling plan to ensure that the cementing and casing programs adequately protect the downhole resources. The entire hole is cased with cement behind pipe.

Mitigative Measures: None

Name of specialist and date: Fred Conrath 05/08/06

WATER QUALITY/HYDROLOGY – SURFACE

Affected Environment: No springs would be affected by the well project. Shell Creek Well #11-35-4 would be located on level terrain south of Shell Creek, which drains into Vermillion Creek west of the project area. All stream segments near the well pad location are presently supporting classified beneficial uses. No impaired stream segments occur in the vicinity of the proposed action.

Environmental Consequences: The well location would require upgrading to an existing gas field road. Upgrading to the existing road, construction of the well pad and pipeline, and installation of drainage features should follow the recommendations provided in the Surface Operating Standards for Oil and Gas Development, 3rd Edition.

Runoff water from the well site, access road, and pipeline corridor would drain towards unnamed ephemeral tributaries of Shell Creek, which is a perennial creek that drains into Vermillion Creek, a tributary of Green River. Localized increases in water turbidity and contamination due to fluid leaks or spills from equipment are potential impacts to waterways as a result of the project. Increased sedimentation to Shell Creek and Vermillion Creek during spring runoff or from high intensity summer/fall rainstorms would be the greatest potential impact to water quality. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval will reduce the potential impacts caused by surface runoff.

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 05/02/06

WETLANDS/RIPARIAN ZONES

Affected Environment: No riparian habitat exists in or near the project area.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Timothy Novotny 05/08/06

WILD & SCENIC RIVERS

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable

Name of specialist and date: Jim McBrayer 05/02/06

WILDERNESS, WSAs

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable

Name of specialist and date: Jim McBrayer 05/02/06

NON-CRITICAL ELEMENTS

FLUID MINERALS

Affected Environment: The proposed action is in favorability zone 4 (highest for oil and gas potential). This well will penetrate the Wasatch, Fort Union, Mancos, Frontier, Dakota and Nugget Formations. In this well conventional sands will be explored for possible economic oil and gas recovery in most of the above mentioned formations. The casing and cementing programs are adequate to protect downhole resources. Bituminous coal seams with more than three thousand feet of overburden can be found in the lower Ft. Union Formation (Cherokee coals). Shallower thin beds of coal can be found in the Wasatch Formation as well. There mineable value is low and their total gas content is low. Nonetheless the above identified seams will be isolated by the proposed casing and cementing program.

Environmental Consequences: The proposed casing and cementing programs appear to be adequate to protect and/or isolate all resources identified above. The entire hole is cased with cement behind pipe.

Mitigative Measures: None

Name of specialist and date: Fred Conrath 05/08/06

PALEONTOLOGY

Affected Environment: The geologic formation at the surface is the Tertiary Age formation, Wasatch Formation, Cathedral Bluffs Tongue (Twc), a variegated claystone, mudstone and sandstone formation. This formation has been classified a Class II formation for the potential for occurrence of scientifically significant fossils.

Environmental Consequences: Scientifically significant fossils are occasionally found within this formation (Armstrong & Wolney, 1989). The potential for discovery of significant fossils on this location is considered to be moderate. If any such fossils are located here, construction activities could damage the fossils and the information that could have been gained from them would be lost. The significance of this impact would depend upon the significance of the fossil. Ceasing operations and notifying the Field Office Manager immediately upon discovery of a fossil during construction activities can effectively mitigate this impact. An assessment of the significance is made and a plan to retrieve the fossil or the information from the fossil is developed.

The proposed action could also constitute a beneficial impact to paleontological resources by increasing the chances for discovery of scientifically significant fossils.

Mitigative Measures: "Standard Discovery Stip", i.e., “If fossils are discovered during construction or other operations, all activity in the area will cease and the Field Office Manager will be notified immediately. An assessment of significance will be made within an agreed time frame. Operations will resume only upon written notification by the Authorized Officer."

References

Armstrong, Harley J. and Wolney, David G., 1989, Paleontological Resources of Northwest Colorado: A Regional Analysis, Museum of Western Colorado, Grand Junction, CO, prepared for Bur. Land Management, Vol. I of V.

Miller, A.E., 1977, Geology of Moffat County, Colorado, Colo. Geol. Surv. Map Series 3, 1:126,720.

Name of specialist and date: Robert Ernst 05/02/06

SOILS

Affected Environment: The proposed Shell Creek Well #11-35-4 would be located within the Tresano sandy loam soil-mapping unit. This very deep, well drained soil is found on plateaus. It formed in eolian deposits derived from sandstone. Slopes within this unit average 3 to 12 percent. Runoff is medium and the hazard of wind and water erosion is moderate to high.

Environmental Consequences: Increased soil erosion from wind and water would occur during construction of the well pad and pipeline. Erosion would continue throughout the operational life of the well. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur. Vegetation and soil would be removed from approximately three acres of land. Soil productivity would decline due to reduced soil microbial activity, impaired water infiltration, mixing of soil horizons, top soil loss, and introduction of weeds. Soil loss from construction would be greatest shortly after project start and would decrease in time as a result of stabilization through revegetation and reclamation of disturbed areas. Soil erosion would be reduced to an acceptable level with the mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD. This mitigation will reduce the potential to have excessive sediments and salts in runoff water from the well site.

Mitigative Measures: Additional mitigative measures will be employed to prevent or reduce accelerated erosion if it begins to occur within or on constructed drainage and diversion ditches or surface drainages affected by the roads or well pads.

Name of specialist and date: Barb Blackstun 05/12/06

REALTY AUTHORIZATIONS

Affected Environment: There is one gas pipeline (COC25907) in sections 23, 26 and 27. There are is one existing access road present in the project area, COC61289, held by Samson Resources Company. This project will have no impact on the existing authorizations.

Samson Resources Company will be using existing MCR 4, 4W and existing ROW COC61289 to access the Shell Creek Well #4.

Environmental Consequences: Existing pipelines could be accidentally damaged during construction activities. Impacts would be temporary until the damage is repaired.

Mitigative Measures: Damage to existing pipelines would be minimized by:

- Utilize the "One Call" system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavations.
- Provide 48 hour notification to the owner/operator of facilities prior to performing any work within 10 feet of buried or above ground pipelines.

Name of specialist and Date: Louise McMinn 05/08/06

VEGETATION

Affected Environment: The Proposed Action is located within a sagebrush-grass plant community. Dominant plants include Wyoming big sagebrush (Artemesia tridentata

wyomingensis), shadscale (Atriplex confertifolia), Nuttall's saltbush (A. nuttallii), greasewood (Sarcobatus vermiculatus), gray horsebrush (Tetradymia canescens), winterfat (Ceratoides lanata), prickly pear (Opuntia spp.), green rabbitbrush (Chrysothamnus viscidiflorus), Hood's plox (Phlox hoodii), Indian ricegrass (Oryzopsis hymenoides), needle-and-thread (Stipa comata), and Sandberg bluegrass (Poa sandbergii). Non-natives cheatgrass (Bromus tectorum) and halogeton (Halogeton glomeratus) are present but not in excessive amounts.

Environmental Consequences: The Proposed Action would completely remove approximately three acres of native vegetation. This removal would be insignificant in the larger landscape but would be in addition to two non-producing well locations and approximately four miles of roads within a one-mile radius of the Proposed Action. As long as reseeding and subsequent reestablishment of recommended native plants occurs upon well completion, the Proposed Action would not adversely affect the surrounding plant community. As evidenced by the plant community in its pre-distubance state, this site is highly suceptible to halogeton invasion. It will be imperative that all COAs regarding weed control and revegetation are followed to avoid increasing halogeton presence on and in areas surrounding the Proposed Action.

The No Action Alternative would not impact the native plant community as no disturbance would occur.

Mitigative Measures: None

Name of specialist and date: Hunter Seim 05/02/06

WILDLIFE, AQUATIC

Affected Environment: The proposed action is located in a sagebrush/grass community and does not provide habitat for aquatic wildlife.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Timothy Novotny 05/08/06

WILDLIFE, TERRESTRIAL

Affected Environment: The proposed well site provides habitat for mule deer and antelope. No critical habitat or severe winter range is located in the project area for either species; however, both species use the area during moderate winters. The project area also provides habitat for small mammals, birds and reptiles.

Environmental Consequences: Impacts to wildlife species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. These impacts are more significant during critical seasons, such as winter or reproduction. The proposed action is located in marginal habitat for most species, and therefore, it is unlikely the project would have significant impacts to wildlife species. All wildlife species using the area are likely to be displaced during construction and drilling activities and may find the project area less suitable once construction is complete.

Most small mammals using the project area would be capable of avoiding construction equipment and should not be directly harmed by these activities. Some burrowing animals may be killed by construction equipment. This should be considered a short-term negative impact that is not likely to harm populations of any species.

Mitigative Measures: None

Name of specialist and date: Timothy Novotny 05/08/06

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Fluid Minerals			See Fluid Minerals
Forest Management	BB 05/02/06		
Hydrology/Ground		FC 05/08/06	
Hydrology/Surface		BB 05/02/06	
Paleontology			See Paleontology
Range Management		HS 05/02/06	
Realty Authorizations			See Realty
Recreation/Travel Mgmt		RS 05/08/06	
Socio-Economics		LM 05/08/06	
Solid Minerals		RE 05/02/06	
Visual Resources		JM 05/02/06	
Wild Horse & Burro Mgmt	BB 05/02/06		

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts may result from the development of Shell Creek Wells when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the area. Currently no producing wells exist within a one-mile radius of the proposed well. Several shut-in, temporarily abandoned, and abandoned wells are located within a three-mile radius. Right-of-Way grants exist in the surrounding area for pipelines and

gas field roads. Past or existing actions near the project area that would influence the landscape include wildfire, recreation, hunting, grazing, and ranching activities.

Surface disturbance associated with oil and gas activity would increase the potential for erosion and sedimentation. Only a small reduction in available forage would be anticipated. Some wildlife species may be temporarily displaced by construction at the well site, access road, and future pipeline routes, but should return once construction is completed. Displacement of hunters and recreationists during the short-term construction and drilling periods would occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

The cumulative effects of projected oil and gas development are minimized through Best Management Practices identified in the Surface Use Plan of the APD and the BLM required mitigation in the Conditions of Approval for the APD. Proper construction and drilling practices must comply with federal and state environmental regulations. All oil and gas wells in the area would be completed in accordance with Onshore Order No. 2. Reasonably foreseeable mineral development would occur under the guidelines of the Little Snake Resource Management Plan and the Colorado Oil and Gas Leasing and Development EIS.

STANDARDS:

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The project area provides habitat for a variety of wildlife species. The proposed action would alter approximately 3 acres of habitat and would not have significant negative impacts to terrestrial wildlife species. The proposed action would not preclude this standard from being met within the larger landscape.

Name of specialist and date: Timothy Novotny 05/08/06

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD: The proposed well site provides habitat for two special status species, greater sage grouse and ferruginous hawks. The proposed action with proposed mitigation measures is not expected to significantly impact either of these species. The proposed action would not preclude this standard from being met within the larger landscape.

Name of specialist and date: Timothy Novotny 05/08/06

PLANT AND ANIMAL COMMUNITY (plant) STANDARD: The Proposed Action would completely remove native vegetation. As long as the COAs concerning revegetation and weed control are faithfully adhered to, the native plant community would eventually return and weeds such as halogeton would be kept in check, and thus meet this standard. The No Action Alternative would meet this standard as no disturbance would occur.

Name of specialist and date: Hunter Seim 05/02/06

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant)
STANDARD: There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of the Proposed Action. This standard does not apply.

Name of specialist and date: Hunter Seim 05/02/06

RIPARIAN SYSTEMS STANDARD: There is no riparian habitat in or near the proposed project area. This standard does not apply.

Name of specialist and date: Timothy Novotny 05/08/06

WATER QUALITY STANDARD: The proposed action would meet the public land health standard for water quality. Reclamation of the pipeline corridors would be completed immediately after installation to minimize sheet and rill erosion from the corridor. Interim reclamation of the unused area on the well pad will be completed to minimize sheet and rill erosion from the well site. When the well pad is no longer needed for production operations, the disturbed well pad would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. These Best Management Practices would help to reduce accelerated erosion of the site. No stream segments near this project are listed as impaired.

Name of specialist and date: Barb Blackstun 05/02/06

UPLAND SOILS STANDARD: The proposed action will not meet the upland soil standard for land health, but it is not expected to while the well location, pipeline, and access road are used for operations. The well pad site, pipeline corridor, and access road will not exhibit the characteristics of a healthy soil. Several Best Management Practices have been designed into the project or are attached as mitigating measures that will reduce impacts to and conserve soil materials. Upland soil health will return to the well pad, pipeline corridor, and access road disturbances after reclamation practices and well abandonments have been successfully achieved.

Name of specialist and date: Barb Blackstun 05/02/06

PERSONS/AGENCIES CONSULTED: Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
EA CO-100-2006-043

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.

2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.

3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.

4. There are no highly controversial effects on the environment.

5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.

6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.

7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.

8. Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

DECISION AND RATIONALE: I have determined that approving this APD is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Application for Permit to Drill and the Conditions of Approval. The project will be monitored as stated in the Compliance Plan outlined below.

MITIGATION MEASURES: The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD's 13-point surface use plan, well location maps, and the Conditions of Approval are found in the well's case file labeled COC009713, Well #11-35-4.

COMPLIANCE PLAN(S):

Compliance Schedule
Compliance will be conducted during the construction phase and drilling phase to insure that all terms and conditions specified in the lease and the approved APD are followed. In the event a producing well is established, periodic inspections as identified through the Inspection and Enforcement Strategy and independent well observations will be conducted. File inspections will include a review of all required reports and the Monthly Report of Operations will be evaluated for accuracy.

Monitoring Plan
The well location and access road will be monitored during the term of the lease for compliance with pertinent Regulations, Onshore Orders, Notices to Lessees, or subsequent COAs until final abandonment is granted; monitoring will help determine the effectiveness of mitigation and document the need for additional mitigative measures.

Assignment of Responsibility
Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Fluid Mineral staff in the Little Snake Field Office. The primary inspector will be the Petroleum Engineering Technician, but the Petroleum Engineer, Natural Resource Specialist, Realty Specialist, and Legal Instruments Examiner will also be involved.

SIGNATURE OF PREPARER:

DATE SIGNED:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

SIGNATURE OF AUTHORIZED OFFICIAL:

DATE SIGNED: 05/22/06